CLAIMS

What is claimed is:

1. A method of data retrieval comprising the steps of: providing a first memory circuit (610) ; providing a stride prediction (611)table (SPT); providing cache memory circuit (612); executing instructions for accessing data (613)within the first memory; detecting a cache miss (614); and accessing and updating (615)the SPT only when a cache miss is detected.

2. A method according to claim 1 wherein the cache memory circuit is a stream buffer.

3. A method according to claim 1 wherein the cache memory circuit is a random access cache memory.

4. A method according to claim 1 wherein the cache memory circuit and the SPT are within a same physical memory space.

5. A method according to claim 1 wherein the first memory is an external memory circuit separate from a processor executing the instructions.

6. A method according to claim 1 wherein the step of detecting a cache miss includes the steps of: determining whether an instruction being executed by the processor is a memory access instruction; when the instruction is a memory access instruction, determining whether data at a memory location of the memory access instruction is present within the cache; and when the data is other than present within the cache, detecting a cache miss.

7. A method according to claim 1 wherein the step of detecting a cache miss includes the steps of: determining whether an instruction to be executed by the processor is a memory access instruction; when the instruction is a memory access instruction, determining whether data at a memory location of the memory access instruction is present within the cache; and, when the data is other than present within the cache, detecting a cache miss, and accessing and updating the SPT only when the cache miss has occurred.

8. A method according to claim 1, wherein the step of accessing provides a step of filtering that prevents unnecessary access and updates to entries within the SPT.

9. A method according to claim 1, wherein the cache memory circuit is integral with the processor executing the instructions.

10. A method according to claim 1, wherein the SPT comprises and address field, and where a size of the address field is less than an address space used to index the SPT.

11. An apparatus comprising: a stride prediction (604) table (SPT); and, a filter circuit (602) for use with the SPT, the filter circuit for determining instance wherein the SPT is to be accessed and updated, the instances only occurring when a cache miss is detected.

12. An apparatus according to claim 11 comprising a memory circuit, the memory circuit for storing the SPT therein.

13. An apparatus according to claim 12 comprising a cache memory, the cache memory residing within the memory circuit (605).

14. An apparatus according to claim 13, wherein the memory circuit is a single ported memory circuit.

15. A method according to claim 13, wherein the memory circuit is a random access memory circuit.

16. A method according to claim 1, wherein the cache memory circuit is a stream buffer (606).